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NEWS 4	May 12	Polymer links for the POLYLINK command completed in REGISTRY
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NEWS 11	AUG 02	IFIPAT/IFIUDB/IFICDB reloaded with new search and display fields
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NEWS 13	AUG 02	STN User Update to be held August 22 in conjunction with the 228th ACS National Meeting
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NEWS 15	AUG 04	Pricing for the Save Answers for SciFinder Wizard within STN Express with Discover! will change September 1, 2004
NEWS 16	AUG 27	BIOCOMMERCE: Changes and enhancements to content coverage
NEWS 17	AUG 27	BIOTECHABS/BIOTECHDS: Two new display fields added for legal status data from INPADOC
NEWS 18	SEP 01	INPADOC: New family current-awareness alert (SDI) available
NEWS 19	SEP 01	New pricing for the Save Answers for SciFinder Wizard within STN Express with Discover!
NEWS 20	SEP 01	New display format, HITSTR, available in WPIDS/WPINDEX/WPIX

NEWS EXPRESS	JULY 30 CURRENT WINDOWS VERSION IS V7.01, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 11 AUGUST 2004
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* * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 18:25:47 ON 13 SEP 2004

=> file biosis
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'BIOSIS' ENTERED AT 18:25:57 ON 13 SEP 2004

FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 8 September 2004 (20040908/ED)

FILE RELOADED: 19 October 2003.

=> s (pLNH-ST) with (pLNH-21)
MISSING OPERATOR PLNH-ST) WITH
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

=> s (pLNH-ST and pLNH21)
```
             0 PLNH
         39532 ST
             0 PLNH-ST
                 (PLNH(W)ST)
             0 PLNH21
L1           0 (PLNH-ST AND PLNH21)
```

=> s (pLNH-ST)
```
             0 PLNH
         39532 ST
L2           0 (PLNH-ST)
                 (PLNH(W)ST)
```

=> s pLNH-ST
```
             0 PLNH
         39532 ST
L3           0 PLNH-ST
                 (PLNH(W)ST)
```

=> s plasmid vector
```
         74008 PLASMID
        164685 VECTOR
L4        2653 PLASMID VECTOR
                 (PLASMID(W)VECTOR)
```

=> s l4 and LNH-ST
```
            86 LNH
         39532 ST
             3 LNH-ST
                 (LNH(W)ST)
L5           0 L4 AND LNH-ST
```

=> s pLNH21
```
L6           0 PLNH21
```

=> s l4 and LNH21

```
             0 LNH21
L7           0 L4 AND LNH21

=> s replicative and integrative vector
          7202 REPLICATIVE
          4614 INTEGRATIVE
        164685 VECTOR
            89 INTEGRATIVE VECTOR
                 (INTEGRATIVE(W)VECTOR)
L8           6 REPLICATIVE AND INTEGRATIVE VECTOR

=> d l8 ti abs ibib tot

L8   ANSWER 1 OF 6  BIOSIS  COPYRIGHT (c) 2004 The Thomson Corporation.  on STN
TI   Development of a transformation system for the flavinogenic yeast Candida
     famata.
AB   Riboflavin-overproducing mutants of the flavinogenic yeast Candida famata
     are used for industrial riboflavin production.  This paper describes the
     development of an efficient transformation system for this species.
     Leucine-deficient mutants have been isolated from C. famata VKM Y-9
     wild-type strain.  Among them leu2 mutants were identified by
     transformation to leucine prototrophy with plasmids YEp13 and PRpL2
     carrying the Saccharomyces cerevisiae LEU2 gene.  DNA fragments (called
     CfARSs) conferring increased transformation frequencies and
     extrachromosomal replication were isolated from a C. famata gene library
     constructed on the integrative vector containing the
     S. cerevisiae LEU2 gene as a selective marker.  The smallest cloned
     fragment (CfARS16) has been sequenced.  This one had high adenine plus
     thymine (A+T) base pair content and a sequence homologous to the S.
     cerevisiae ARS Consensus Sequence.  Methods for spheroplast transformation
     and electrotransformation of the yeast C. famata were optimized.  They
     conferred high transformation frequencies (up to 105 transformants per mug
     DNA) with a C. famata leu2 mutant using replicative plasmids
     containing the S. cerevisiae LEU2 gene as a selective marker.
     Riboflavin-deficient mutants were isolated from the C. famata leu2 strain
     and their biochemical identification was carried out.  Using the developed
     transformation system, several C. famata genomic fragments complementing
     mutations of structural genes for riboflavin biosynthesis (coding for GTP
     cyclohydrolase, reductase, dihydroxybutanone phosphate synthase and
     riboflavin synthase, respectively) have been cloned.
ACCESSION NUMBER:    2002:536973  BIOSIS
DOCUMENT NUMBER:     PREV200200536973
TITLE:               Development of a transformation system for the flavinogenic
                     yeast Candida famata.
AUTHOR(S):           Voronovsky, Andriy A.; Abbas, Charles A.; Fayura, Lyubov
                     R.; Kshanovska, Barbara V.; Dmytruk, Kostyantyn V.;
                     Sybirna, Kateryna A.; Sibirny, Andriy A. [Reprint author]
CORPORATE SOURCE:    Institute of Cell Biology, Drahomanov Street 14/16, Lviv,
                     79005, Ukraine
                     sibirny@biochem.lviv.ua
SOURCE:              FEMS Yeast Research, (August, 2002) Vol. 2, No. 3, pp.
                     381-388. print.
                     ISSN: 1567-1356.
DOCUMENT TYPE:       Article
LANGUAGE:            English
ENTRY DATE:          Entered STN: 16 Oct 2002
                     Last Updated on STN: 16 Oct 2002

L8   ANSWER 2 OF 6  BIOSIS  COPYRIGHT (c) 2004 The Thomson Corporation.  on STN
TI   Site-specific integration of bacteriophage VWB genome into Streptomyces
     venezuelae and construction of a VWB-based integrative
     vector.
AB   The temperate bacteriophage VWB integrates into the chromosome of
     Streptomyces venezuelae ETH14630 via site-specific integration.  Following
```

recombination of the VWB attP region with the chromosomal attB sequence, the host-phage junctions attL and attR are formed. Nucleotide sequence analysis of attP, attB, attL and attR revealed a 45 bp common core sequence. In attB this 45 bp sequence consists of the 3' end of a putative tRNAArg(AGG) gene with a 3'-terminal CCA sequence which is typical for prokaryotic tRNAs. Phage DNA integration restores the putative tRNAArg(AGG) gene in attL. However, following recombination the CCA sequence is missing as is the case for most Streptomyces tRNA genes described so far. Adjacent to VWB attP, an ORF encoding a 427 aa protein was detected. The C-terminal region of this protein shows high similarity to the conserved C-terminal domain of site-specific recombinases belonging to the integrase family. To prove the functionality of this putative integrase gene (int), an **integrative vector** pKT02 was constructed. This vector consists of a 2.3 kb HindIII-SphI restriction fragment of VWB DNA containing attP and int cloned in a non-**replicative** Escherichia coli vector carrying a thiostrepton-resistance (tsr) gene. Integration of pKT02 was obtained after transformation of Streptomyces venezuelae ETH14630 and Streptomyces lividans TK24 protoplasts. This vector will thus be useful for a number of additional Streptomyces species in which a suitable tRNA gene can be functional as integration site.

ACCESSION NUMBER: 1999:74036 BIOSIS
DOCUMENT NUMBER: PREV199900074036
TITLE: Site-specific integration of bacteriophage VWB genome into Streptomyces venezuelae and construction of a VWB-based **integrative vector**.
AUTHOR(S): Van Mellaert, Lieve; Mei, Lijuan; Lammertyn, Elke; Schacht, Sabine; Anne, Jozef [Reprint author]
CORPORATE SOURCE: Lab. Bacteriol., Rega Instituut, KU Leuven, Minderbroedersstraat 10, B-3000 Leuven, Belgium
SOURCE: Microbiology (Reading), (Dec., 1998) Vol. 144, No. 12, pp. 3351-3358. print.
ISSN: 1350-0872.
DOCUMENT TYPE: Article
LANGUAGE: English
OTHER SOURCE: EMBL-AJ000047; EMBL-AJ000048; EMBL-AJ000049; EMBL-AJ000050
ENTRY DATE: Entered STN: 1 Mar 1999
Last Updated on STN: 1 Mar 1999

L8 ANSWER 3 OF 6 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN
TI Genetic rearrangements leading to disruption of heterologous gene expression in mycobacteria: An observation with Escherichia coli beta-galactosidase in Mycobacterium smegmatis and its implications in vaccine development.
AB Different mycobacteria carrying cloned genes for heterologous protective antigens have been proposed as vaccine vehicles. In this study, the stability of the expression of beta-galactosidase was studied in Mycobacterium smegmatis using integrative (pMV361::lacZ) and **replicative** (pMV261::lacZ) vectors. Recombinant M. smegmatis forms blue colonies on X-gal plates. Occasional white mutants encountered while plating on X-gal plates were genetically analysed. The loss of lacZ phenotype was due to insertion of an IS element in lacZ gene of **integrative vector** whereas in case of **replicative** vectors, loss of lacZ phenotype was due to deletions of different sizes in the lacZ gene and the Phsp60 promoter region. The frequency of such events was rare, 1.7 X 10-5 in **integrative vector** and 2 X 10-3 in the case of **replicative** vector. The **integrative vector** seemed more stable in terms of expression of foreign genes in mycobacteria. Hence, the rearrangements reported in the present study warrant serious consideration before implementing mycobacteria as recombinant vaccines.

ACCESSION NUMBER: 1998:364139 BIOSIS
DOCUMENT NUMBER: PREV199800364139
TITLE: Genetic rearrangements leading to disruption of

heterologous gene expression in mycobacteria: An observation with Escherichia coli beta-galactosidase in Mycobacterium smegmatis and its implications in vaccine development.

AUTHOR(S): Kumar, Deepak; Srivastava, B. S.; Srivastava, Ranjana [Reprint author]

CORPORATE SOURCE: Div. Microbiol., Central Drug Res. Inst., Lucknow 226 001, India

SOURCE: Vaccine, (July, 1998) Vol. 16, No. 11-12, pp. 1212-1215. print.
CODEN: VACCDE. ISSN: 0264-410X.

DOCUMENT TYPE: Article

LANGUAGE: English

ENTRY DATE: Entered STN: 27 Aug 1998
Last Updated on STN: 27 Aug 1998

L8 ANSWER 4 OF 6 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN

TI The yeast Saccharomyces kluyveri as a recipient eukaryote in transkingdom conjugation: Behavior of transmitted plasmids in transconjugants.

AB The prokaryote Escherichia coli successfully conjugated with the eukaryote Saccharomyces kluyveri, which is relatively distant from the species S. cerevisiae. To achieve this transkingdom conjugation, we constructed three types of conjugative plasmids, namely integrative, **replicative**, and centromere vectors, for S. cerevisiae. By transfer of any of the three plasmids from E. coli, an S. kluyveri Ura- mutant was converted to the Ura+ phenotype. This phenotype was easily lost under nonselective conditions. Southern analysis of the transconjugants clearly indicated the presence of the plasmids in many different structures and sizes.

ACCESSION NUMBER: 1994:405653 BIOSIS

DOCUMENT NUMBER: PREV199497418653

TITLE: The yeast Saccharomyces kluyveri as a recipient eukaryote in transkingdom conjugation: Behavior of transmitted plasmids in transconjugants.

AUTHOR(S): Inomata, Koji; Nishikawa, Masanobu; Yoshida, Kazuo [Reprint author]

CORPORATE SOURCE: Dep. Biol. Sci., Fac. Sci., Hiroshima Univ., Higashi-Hiroshima 724, Japan

SOURCE: Journal of Bacteriology, (1994) Vol. 176, No. 15, pp. 4770-4773.
CODEN: JOBAAY. ISSN: 0021-9193.

DOCUMENT TYPE: Article

LANGUAGE: English

ENTRY DATE: Entered STN: 23 Sep 1994
Last Updated on STN: 23 Sep 1994

L8 ANSWER 5 OF 6 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN

TI New in-vivo cloning methods by homologous recombination in yeast.

AB We have devised a new strategy to clone DNA sequences from an yeast autonomously-propagating plasmid into a non-autonomous **integrative vector** by in vivo recombination. The method consists of a first step in which the **replicative** plasmid carrying the DNA fragment of interest forms a co-integrate with the nonreplicative plasmid by an induced in-vivo reciprocal exchange accompanied by gene conversion. The dimeric plasmid obtained is then purified and cut with an appropriate restriction enzyme and ligated independently to obtain the two intact monomeric plasmids, the original autonomous plasmid plus the new non-autonomous plasmid carrying the subcloned DNA fragment. The dimeric co-integrate can also serve as substrate for a second in-vivo reciprocal exchange that produces new autonomous plasmids carrying the desired DNA fragment. The technique considerably expands the applications of in-vivo cloning in yeast by complementing three important characteristics of previously published methods: (1) it can be used to clone into non-propagating vectors; (2) co-transformation experiments are not

required; and (3) the intermediate co-integrate can be used to generate new types of autonomously-propagating plasmids directly. These characteristics are independent of whether the DNA insert is flanked by appropriate restriction sites or whether it does, or does not, express a detectable phenotype in yeast. The method is particularly useful for the cloning of large DNA fragments and can be used for plasmids from organisms other than yeasts.

ACCESSION NUMBER: 1994:109863 BIOSIS
DOCUMENT NUMBER: PREV199497122863
TITLE: New in-vivo cloning methods by homologous recombination in yeast.
AUTHOR(S): Prado, F.; Aguilera, A. [Reprint author]
CORPORATE SOURCE: Dep. Genetica, Fac. Biol., Univ. Sevilla, E-41012 Sevilla, Spain
SOURCE: Current Genetics, (1994) Vol. 25, No. 2, pp. 180-183.
CODEN: CUGED5. ISSN: 0172-8083.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 14 Mar 1994
Last Updated on STN: 14 Mar 1994

L8 ANSWER 6 OF 6 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN
TI REARRANGEMENTS IN THE 2MM DNA SEGMENT THAT ACTIVATE THE REPLICATOR IN THE **INTEGRATIVE VECTOR** OF SACCHAROMYCES-CEREVISIAE.
AB A study was carried out to establish the fact that the transformation of the ciro-strain of the yeast S. cerevisiae by the pOK9 plasmid results in the formation of a series of unstable independently replicating plasmids as a result in the rearrangements in 2 μm DNA. The recombinant plasmid pOK9 was described. Data were presented on the stability of the LEU2 marker intransformants containing independently replicating plasmids. These rearrangements were described for the 1st time. The activation of the **replicative** activity is associated with the rearranged sequence of the EcoRi-fragment of 2 μm DNA.

ACCESSION NUMBER: 1989:244838 BIOSIS
DOCUMENT NUMBER: PREV198987125903; BA87:125903
TITLE: REARRANGEMENTS IN THE 2MM DNA SEGMENT THAT ACTIVATE THE REPLICATOR IN THE **INTEGRATIVE VECTOR** OF SACCHAROMYCES-CEREVISIAE.
AUTHOR(S): SHUBOCHKINA E A [Reprint author]; KRASNIKOVA O V; FODOR I I
CORPORATE SOURCE: INST BIOCHEM PHYSIOL MICROORG, ACAD SCI USSR, PUSHCHINO, USSR
SOURCE: Doklady Akademii Nauk SSSR, (1988) Vol. 302, No. 3, pp. 720-723.
CODEN: DANKAS. ISSN: 0002-3264.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: RUSSIAN
ENTRY DATE: Entered STN: 20 May 1989
Last Updated on STN: 20 May 1989

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FILE 'HOME' ENTERED AT 18:25:47 ON 13 SEP 2004

=> file biosis
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

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CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
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RECORDS LAST ADDED: 8 September 2004 (20040908/ED)

FILE RELOADED: 19 October 2003.

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MISSING OPERATOR PLNH-ST) WITH
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

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```
             0 PLNH
         39532 ST
             0 PLNH-ST
                 (PLNH(W)ST)
             0 PLNH21
L1           0 (PLNH-ST AND PLNH21)
```

=> s (pLNH-ST)
```
             0 PLNH
         39532 ST
L2           0 (PLNH-ST)
                 (PLNH(W)ST)
```

=> s pLNH-ST
```
             0 PLNH
         39532 ST
L3           0 PLNH-ST
                 (PLNH(W)ST)
```

=> s plasmid vector
```
         74008 PLASMID
        164685 VECTOR
L4        2653 PLASMID VECTOR
                 (PLASMID(W)VECTOR)
```

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```
            86 LNH
         39532 ST
             3 LNH-ST
                 (LNH(W)ST)
L5           0 L4 AND LNH-ST
```

=> s pLNH21
```
L6           0 PLNH21
```

=> s l4 and LNH21

```
             0 LNH21
L7           0 L4 AND LNH21

=> s replicative and integrative vector
          7202 REPLICATIVE
          4614 INTEGRATIVE
        164685 VECTOR
            89 INTEGRATIVE VECTOR
                 (INTEGRATIVE(W)VECTOR)
L8           6 REPLICATIVE AND INTEGRATIVE VECTOR

=> d l8 ti abs ibib tot

L8   ANSWER 1 OF 6  BIOSIS  COPYRIGHT (c) 2004 The Thomson Corporation.  on STN
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ACCESSION NUMBER:    2002:536973  BIOSIS
DOCUMENT NUMBER:     PREV200200536973
TITLE:               Development of a transformation system for the flavinogenic
                     yeast Candida famata.
AUTHOR(S):           Voronovsky, Andriy A.; Abbas, Charles A.; Fayura, Lyubov
                     R.; Kshanovska, Barbara V.; Dmytruk, Kostyantyn V.;
                     Sybirna, Kateryna A.; Sibirny, Andriy A. [Reprint author]
CORPORATE SOURCE:    Institute of Cell Biology, Drahomanov Street 14/16, Lviv,
                     79005, Ukraine
                     sibirny@biochem.lviv.ua
SOURCE:              FEMS Yeast Research, (August, 2002) Vol. 2, No. 3, pp.
                     381-388. print.
                     ISSN: 1567-1356.
DOCUMENT TYPE:       Article
LANGUAGE:            English
ENTRY DATE:          Entered STN: 16 Oct 2002
                     Last Updated on STN: 16 Oct 2002

L8   ANSWER 2 OF 6  BIOSIS  COPYRIGHT (c) 2004 The Thomson Corporation.  on STN
TI   Site-specific integration of bacteriophage VWB genome into Streptomyces
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     vector.
AB   The temperate bacteriophage VWB integrates into the chromosome of
     Streptomyces venezuelae ETH14630 via site-specific integration.  Following
```

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ACCESSION NUMBER: 1999:74036 BIOSIS
DOCUMENT NUMBER: PREV199900074036
TITLE: Site-specific integration of bacteriophage VWB genome into Streptomyces venezuelae and construction of a VWB-based **integrative vector**.
AUTHOR(S): Van Mellaert, Lieve; Mei, Lijuan; Lammertyn, Elke; Schacht, Sabine; Anne, Jozef [Reprint author]
CORPORATE SOURCE: Lab. Bacteriol., Rega Instituut, KU Leuven, Minderbroedersstraat 10, B-3000 Leuven, Belgium
SOURCE: Microbiology (Reading), (Dec., 1998) Vol. 144, No. 12, pp. 3351-3358. print.
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DOCUMENT TYPE: Article
LANGUAGE: English
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ENTRY DATE: Entered STN: 1 Mar 1999
Last Updated on STN: 1 Mar 1999

L8 ANSWER 3 OF 6 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN
TI Genetic rearrangements leading to disruption of heterologous gene expression in mycobacteria: An observation with Escherichia coli beta-galactosidase in Mycobacterium smegmatis and its implications in vaccine development.
AB Different mycobacteria carrying cloned genes for heterologous protective antigens have been proposed as vaccine vehicles. In this study, the stability of the expression of beta-galactosidase was studied in Mycobacterium smegmatis using integrative (pMV361::lacZ) and **replicative** (pMV261::lacZ) vectors. Recombinant M. smegmatis forms blue colonies on X-gal plates. Occasional white mutants encountered while plating on X-gal plates were genetically analysed. The loss of lacZ phenotype was due to insertion of an IS element in lacZ gene of **integrative vector** whereas in case of **replicative** vectors, loss of lacZ phenotype was due to deletions of different sizes in the lacZ gene and the Phsp60 promoter region. The frequency of such events was rare, 1.7 X 10-5 in **integrative vector** and 2 X 10-3 in the case of **replicative** vector. The **integrative vector** seemed more stable in terms of expression of foreign genes in mycobacteria. Hence, the rearrangements reported in the present study warrant serious consideration before implementing mycobacteria as recombinant vaccines.

ACCESSION NUMBER: 1998:364139 BIOSIS
DOCUMENT NUMBER: PREV199800364139
TITLE: Genetic rearrangements leading to disruption of

heterologous gene expression in mycobacteria: An observation with Escherichia coli beta-galactosidase in Mycobacterium smegmatis and its implications in vaccine development.

AUTHOR(S): Kumar, Deepak; Srivastava, B. S.; Srivastava, Ranjana [Reprint author]

CORPORATE SOURCE: Div. Microbiol., Central Drug Res. Inst., Lucknow 226 001, India

SOURCE: Vaccine, (July, 1998) Vol. 16, No. 11-12, pp. 1212-1215. print.
CODEN: VACCDE. ISSN: 0264-410X.

DOCUMENT TYPE: Article

LANGUAGE: English

ENTRY DATE: Entered STN: 27 Aug 1998
Last Updated on STN: 27 Aug 1998

L8 ANSWER 4 OF 6 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN

TI The yeast Saccharomyces kluyveri as a recipient eukaryote in transkingdom conjugation: Behavior of transmitted plasmids in transconjugants.

AB The prokaryote Escherichia coli successfully conjugated with the eukaryote Saccharomyces kluyveri, which is relatively distant from the species S. cerevisiae. To achieve this transkingdom conjugation, we constructed three types of conjugative plasmids, namely integrative, **replicative**, and centromere vectors, for S. cerevisiae. By transfer of any of the three plasmids from E. coli, an S. kluyveri Ura- mutant was converted to the Ura+ phenotype. This phenotype was easily lost under nonselective conditions. Southern analysis of the transconjugants clearly indicated the presence of the plasmids in many different structures and sizes.

ACCESSION NUMBER: 1994:405653 BIOSIS

DOCUMENT NUMBER: PREV199497418653

TITLE: The yeast Saccharomyces kluyveri as a recipient eukaryote in transkingdom conjugation: Behavior of transmitted plasmids in transconjugants.

AUTHOR(S): Inomata, Koji; Nishikawa, Masanobu; Yoshida, Kazuo [Reprint author]

CORPORATE SOURCE: Dep. Biol. Sci., Fac. Sci., Hiroshima Univ., Higashi-Hiroshima 724, Japan

SOURCE: Journal of Bacteriology, (1994) Vol. 176, No. 15, pp. 4770-4773.
CODEN: JOBAAY. ISSN: 0021-9193.

DOCUMENT TYPE: Article

LANGUAGE: English

ENTRY DATE: Entered STN: 23 Sep 1994
Last Updated on STN: 23 Sep 1994

L8 ANSWER 5 OF 6 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN

TI New in-vivo cloning methods by homologous recombination in yeast.

AB We have devised a new strategy to clone DNA sequences from an yeast autonomously-propagating plasmid into a non-autonomous **integrative vector** by in vivo recombination. The method consists of a first step in which the **replicative** plasmid carrying the DNA fragment of interest forms a co-integrate with the nonreplicative plasmid by an induced in-vivo reciprocal exchange accompanied by gene conversion. The dimeric plasmid obtained is then purified and cut with an appropriate restriction enzyme and ligated independently to obtain the two intact monomeric plasmids, the original autonomous plasmid plus the new non-autonomous plasmid carrying the subcloned DNA fragment. The dimeric co-integrate can also serve as substrate for a second in-vivo reciprocal exchange that produces new autonomous plasmids carrying the desired DNA fragment. The technique considerably expands the applications of in-vivo cloning in yeast by complementing three important characteristics of previously published methods: (1) it can be used to clone into non-propagating vectors; (2) co-transformation experiments are not

required; and (3) the intermediate co-integrate can be used to generate new types of autonomously-propagating plasmids directly. These characteristics are independent of whether the DNA insert is flanked by appropriate restriction sites or whether it does, or does not, express a detectable phenotype in yeast. The method is particularly useful for the cloning of large DNA fragments and can be used for plasmids from organisms other than yeasts.

ACCESSION NUMBER: 1994:109863 BIOSIS
DOCUMENT NUMBER: PREV199497122863
TITLE: New in-vivo cloning methods by homologous recombination in yeast.
AUTHOR(S): Prado, F.; Aguilera, A. [Reprint author]
CORPORATE SOURCE: Dep. Genetica, Fac. Biol., Univ. Sevilla, E-41012 Sevilla, Spain
SOURCE: Current Genetics, (1994) Vol. 25, No. 2, pp. 180-183.
CODEN: CUGED5. ISSN: 0172-8083.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 14 Mar 1994
Last Updated on STN: 14 Mar 1994

L8 ANSWER 6 OF 6 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN
TI REARRANGEMENTS IN THE 2MM DNA SEGMENT THAT ACTIVATE THE REPLICATOR IN THE **INTEGRATIVE VECTOR** OF SACCHAROMYCES-CEREVISIAE.
AB A study was carried out to establish the fact that the transformation of the ciro-strain of the yeast S. cerevisiae by the pOK9 plasmid results in the formation of a series of unstable independently replicating plasmids as a result in the rearrangements in 2 μm DNA. The recombinant plasmid pOK9 was described. Data were presented on the stability of the LEU2 marker intransformants containing independently replicating plasmids. These rearrangements were described for the 1st time. The activation of the **replicative** activity is associated with the rearranged sequence of the EcoRi-fragment of 2 μm DNA.

ACCESSION NUMBER: 1989:244838 BIOSIS
DOCUMENT NUMBER: PREV198987125903; BA87:125903
TITLE: REARRANGEMENTS IN THE 2MM DNA SEGMENT THAT ACTIVATE THE REPLICATOR IN THE **INTEGRATIVE VECTOR** OF SACCHAROMYCES-CEREVISIAE.
AUTHOR(S): SHUBOCHKINA E A [Reprint author]; KRASNIKOVA O V; FODOR I I
CORPORATE SOURCE: INST BIOCHEM PHYSIOL MICROORG, ACAD SCI USSR, PUSHCHINO, USSR
SOURCE: Doklady Akademii Nauk SSSR, (1988) Vol. 302, No. 3, pp. 720-723.
CODEN: DANKAS. ISSN: 0002-3264.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: RUSSIAN
ENTRY DATE: Entered STN: 20 May 1989
Last Updated on STN: 20 May 1989

```
=> s (2 μm  replicon) and autonomously replicating sequence
       3077280 2
        685066 M
          2372 REPLICON
             0 2 5M  REPLICON
                 (2(W)M(W)REPLICON)
          2522 AUTONOMOUSLY
          6824 REPLICATING
        421409 SEQUENCE
           312 AUTONOMOUSLY REPLICATING SEQUENCE
                 (AUTONOMOUSLY(W)REPLICATING(W)SEQUENCE)
L9           0 (2 5M  REPLICON) AND AUTONOMOUSLY REPLICATING SEQUENCE
```

```
=> s (2 μm) and ARS
       3077280 2
        685066 M
         17564 2 5M
                (2(W)M)
          2561 ARS
L10          3 (2 5M) AND ARS

=> d l10 ti abs ibib tot
```

L10 ANSWER 1 OF 3 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN

TI Medium alterations improve regrowth of sweet potato (Ipomoea batatas (L.) Lam.) shoot tips cryopreserved by vitrification and encapsulation-dehydration.

AB In vitro grown sweet potato (Ipomoea batatas (L.) Lam.) shoot tips were successfully cryopreserved by both solution based and encapsulation-dehydration vitrification methods. Improved recovery medium enhanced recovery for both vitrification procedures. The effects of sucrose preculture, cryoprotectant preculture and post-warm recovery media on regrowth following LN exposure were investigated. Sucrose preculture was critical for the survival of sweet potato shoot tips cooled to ca. -200degreeC. Cryoprotectant preculture with **2 M** glycerol+0.4 M sucrose before dehydration with PVS2 gave the highest recovery following LN exposure. The viability of cooled samples following culture on ammonium-free MS medium for 5 days was increased three-fold over those cultured on MS medium. The improvement in recovery by altering post-warming conditions suggests that cryoinjury is not always lethal and can be ameliorated by suitable culture conditions.

ACCESSION NUMBER: 2002:208679 BIOSIS
DOCUMENT NUMBER: PREV200200208679
TITLE: Medium alterations improve regrowth of sweet potato (Ipomoea batatas (L.) Lam.) shoot tips cryopreserved by vitrification and encapsulation-dehydration.
AUTHOR(S): Pennycooke, Joyce C.; Towill, Leigh E. [Reprint author]
CORPORATE SOURCE: National Seed Storage Laboratory, USDA-ARS, 1111 S. Mason St., Fort Collins, CO, 80521, USA
ltowill@lamar.colostate.edu
SOURCE: Cryo Letters, (November-December, 2001) Vol. 22, No. 6, pp. 381-389. print.
CODEN: CRLED9. ISSN: 0143-2044.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 20 Mar 2002
Last Updated on STN: 20 Mar 2002

L10 ANSWER 2 OF 3 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN

TI Cassava (Manihot esculenta, Crantz) establishment and adaptability in the Rio Grande Valley.

AB Cassava, (Manihot esculenta, Crantz), a low input, drought-tolerant plant, may have potential in the Lower Rio Grande Valley as a bio-fuel source. To evaluate this possibility, four cassava accessions were received from the USDA, **ARS** Plant Introduction Station in Mayaguez, PR on 16 Jan. 1996. Cuttings, 15 to 20 cm long, were subsequently propagated in 3.7 L pots containing Metro Mix Number 4 for 10 weeks before field setting in a transition Hidalgo-McAllen fine sandy loam soil at a USDA, APHIS site near McCook, TX. Three plant establishment methods, control (no soil amendment), addition of 15 Mt bagassecntdotha-1, or 50 kg cross-linked polyacrylamidecntdotha-1 into the planting trench were evaluated. The 2X1.**2 m** spacings on 15 cm high beds provided 4036 plantscntdotha-1. Plants received a total of 35.8 cm of water between field planting and harvest (230 days). As the growing season progressed, plants grown in bagasse experienced lower soil moisture (in kgcntdotm3) at the 38 cm depth compared to the other establishment methods. Establishment method had little or no effect on plant size, leaf

nutrients, leaf pigment concentrations, root dry matter or root yield. Accessions differed in many of these attributes except root yield, the means of which ranged from 5 to 9 Mtcntdotha-1. Winter temperatures as low as -5.4degreeC resulted in accession spring survival rates between 40 and 72%.

ACCESSION NUMBER: 1998:33227 BIOSIS
DOCUMENT NUMBER: PREV199800033227
TITLE: Cassava (Manihot esculenta, Crantz) establishment and adaptability in the Rio Grande Valley.
AUTHOR(S): Makus, D. J. [Reprint author]
CORPORATE SOURCE: USDA, ARS, Conserv. Prod. Syst., 2413 E. Hwy. 83, Weslaco, TX 78596, USA
SOURCE: Subtropical Plant Science, (1996) Vol. 48, No. 0, pp. 5-9. print.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 14 Jan 1998
Last Updated on STN: 14 Jan 1998

L10 ANSWER 3 OF 3 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN
TI EVIDENCE FOR PARTICIPATION OF A MULTIPROTEIN COMPLEX IN YEAST SACCHAROMYCES-CEREVISIAE DNA REPLICATION IN-VITRO.
AB Fractions containing a high MW form (MW .simeq. 2 + 106) of the activity that replicates in vitro both the 2-μm yeast DNA plasmid and the chromosomal autonomously replicating sequence **ars** 1 can be prepared from cells of the budding yeast Saccharomyces. Protein complexes from the fractions associate in vitro with the replication origins of these DNA elements, as determined by EM. The high MW replicative fraction was characterized in further detail. The DNA synthetic activity in the high MW fraction was bound to the DNA and could be isolated with it. This binding of the replicating activity to the DNA was greatly reduced in the absence of the 2-μm origins of replication. Association of the protein complexes with DNA depended on the amount of replicating activity added, was sensitive to 0.**2 M** KCl, and exhibited a requirement for rATP and deoxyribonucleoside triphosphates. It was not blocked, however, by the DNA polymerase inhibitor aphidicolin or by the RNA polymerase inhibitor α-amanitin. The lack of inhibition by aphidicolin suggests that the deoxyribonucleoside triphosphates may function as cofactors in the binding of protein complexes to DNA or as substrates for a polymerizing activity such as a primase. Binding of the protein complexes as well as actual DNA replication were heat sensitive in the high MW fraction prepared from the temperature-sensitive mutant of the cell division cycle cdc 8. This suggests that the cdc 8 gene product is present in a replicative protein complex and strengthens the conclusion that the presence of the protein complexes on the DNA is associated with replication. Using independent enzyme assays, several other possible replication proteins (including DNA polymerase I, DNA ligase, DNA primase and DNA topoisomerase II) were identified directly in the high MW replicative fraction. All of these results provide support for the idea that a protein complex (or replisome) is involved in the replication of both the extrachromosomal 2-μm DNA and chromosomal DNA in yeast.

ACCESSION NUMBER: 1985:241892 BIOSIS
DOCUMENT NUMBER: PREV198579021888; BA79:21888
TITLE: EVIDENCE FOR PARTICIPATION OF A MULTIPROTEIN COMPLEX IN YEAST SACCHAROMYCES-CEREVISIAE DNA REPLICATION IN-VITRO.
AUTHOR(S): JAZWINSKI S M [Reprint author]; EDELMAN G M
CORPORATE SOURCE: ROCKEFELLER UNIVERSITY, NEW YORK, NEW YORK 10021, USA
SOURCE: Journal of Biological Chemistry, (1984) Vol. 259, No. 11, pp. 6852-6857.
CODEN: JBCHA3. ISSN: 0021-9258.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH